

## **REMARKS**

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1, 5, 7, 8, 10-13, 16, 18, 19, 24, 25, 27, 28 and 30-53 are pending in the application, with claims 1, 11, 19, 30, 33 and 36 being independent. Claims 1, 11, 19, 30 and 33 are currently amended with support for the claim amendments found in the original disclosure. No new matter has been added. Favorable consideration is respectfully requested.

### **Cited References**

The following references have been applied to reject one or more claims of the Application:

**Kanevsky:** Kanevsky et al, U.S. Patent No. 6,421,453

**Oohara:** Oohara et al., U.S. Patent No. 5,801,704

**Hildreth:** Hildreth et al., U.S. Patent No. 7,227,526

**Kazama:** Kazama et al., U.S. Patent No. 6,111,580

**Dempski:** Dempski et al., U.S. Patent No. 7,007,236

### **§102(b) Rejection**

Claims 19, 24, 25, 30-33 and 52 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kanevsky. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

In particular, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejection, Applicant has amended independent **claims 19, 30 and 33**.

These claims, as amended, are reproduced as follows:

Claim 19

A method of controlling a computer system using a gesture, comprising:

permitting different users to select different gestures for execution of a user command selected from a plurality of commands on the computer system;

identifying a user based in part on a radio frequency signal assigned to the user;

capturing one aspect of a gesture in the form of a 3-D gesture image;

processing the 3-D gesture image and utilizing a user profile to determine an associated user command preselected by the user to associate with the received gesture; and

executing the user command to effect manipulation of an object of the computer system based on the selection obtained from a user profile and on a particular application executing on the computer system, wherein the object is a device connected to the computer or an application running on the computer.

Claim 30

A method of controlling a computer system in an operating room environment, comprising:

calibrating the computer system according to a user profile of individualized gesture data by presenting associated gestures using at least one or more body motions;

mapping the gesture data to at least one user command selected from a plurality of user commands that is executable by the computer system, the mapping also being based on a particular application executing on the computer system;

invoking the user profile according to a unique radio frequency signal that identifies a user;

presenting the gestures to a 3-D imaging system for capture and processing;

interpreting 3-D renderings of the gestures to retrieve the associated user commands; and

executing the user commands to effect manipulation of an object of the computer system.

### Claim 33

A computer-readable medium having computer-executable instructions for performing a method of controlling a computer system using gestures, the method comprising:

receiving gesture calibration data in the form of 3-D images of the gestures;

mapping the gesture calibration data to at least one user command that is executable by the computer system, the mapping also being based on a particular application executing on the computer system;

associating the mapped gesture calibration data with a user profile of a user, wherein different users are allowed to select different commands to associate with the received gesture, the different commands are executable by the computer system;

invoking the user profile according to a unique radio frequency signal received from the user;

processing subsequent 3-D images of the gestures received via a camera system;

interpreting the subsequent 3-D images of the gestures to retrieve the associated user commands; and

executing the user commands to effect manipulation of a hardware or software object of the computer system.

Kanevsky fails to disclose the features of these independent claims. Specifically, Applicant respectfully submits that Kanevsky is silent with respect to the added features of the amended claims, particularly with respect to radio frequency signals associated with the user.

Instead, Kanevsky discloses user classification/identification/verification in a computer environment and “any scenario where an intended user must be identified and verified prior to performing, or being allowed to perform, a certain act (e.g. access a service or facility),” (Kanevsky, col. 4, lines 61-66). Kanevsky further discloses recognition of an individual “based on the use of a behavioral password which consists of a sequence of intentionally performed gestures,” (Kanevsky, col. 5, lines 3-8). Specifically, Kanevsky provides:

In addition to the use of behavioral passwords to recognize an individual, the invention also contemplates the concurrent use of additional biometric and/or non-biometric features. The use of additional features provides an added measure of security with regard to computer/facility/service access. **Examples of such biometric features include facial bone structure, signature, face temperature infrared pattern, hand geometry, writing instrument velocity, writing instrument pressure, fingerprint, and retinal print,** to name a few.

(Kanevsky, col. 6, lines 57-65) (emphasis added).

As exemplified by this excerpt, Kanevsky is limited to providing access based upon behavioral passwords in the form of physical gestures produced by an individual concurrently with the individual’s biometric features. But, Kanevsky does not address using radio frequency signals associated with a user for identification purposes, as featured in the amended claims. The additional features disclosed in Kanevsky are strongly tied to an individual’s intrinsic physical or behavioral traits and not related to electromagnetic radiation. In other words, biometric features of an individual do not disclose radio frequency signals.

Therefore, Applicant respectfully submits that Kanevsky is silent with respect to, at least, “identifying a user based in part on a radio frequency signal assigned to the user,” as recited in claim 19; “invoking the user profile according to a unique radio frequency signal that identifies a user,” as recited in claim 30; and “invoking the user profile according to a unique radio frequency signal received from the user,” as recited in claim 33.

Accordingly, Applicant respectfully submits that Kanevsky fails to disclose or suggest all of the features currently recited in independent claims 19, 30 and 33, and that these claims are distinguishable over Kanevsky.

The remaining rejected claims depend from any of the currently amended independent claims and therefore, are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant also respectfully requests individual consideration of each dependent claim.

### **§103(a) Rejection**

#### **Claims 1, 5, 10, 11-13, 16, 18, 27, 28, 34, 39-51 and 53**

Claims 1, 5, 10, 11-13, 16, 18, 27, 28, 34, 39-51 and 53 stand rejected under 35 USC §103(a) as being unpatentable over Kanevsky in view of Oohara. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

As currently amended, independent **claims 1 and 11** are reproduced as follows:

#### **Claim 1**

A system that facilitates a user interface, comprising:

a user command to control a computer system received from a gesture, wherein control of the computer system comprises controlling computer programs by manipulating onscreen objects without a cursor; and

a 3-D imaging component that captures the gesture in the form of a gesture image, processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system and the imaging component permits different users to select different commands from a plurality of user commands executable by the computer system, to associate with the received gesture such that the received gesture executes the user command based on a user profile and on a particular application executing on the computer system.

#### Claim 11

A system that facilitates a user interface in a medical environment, comprising:

a user command to control an object of a computer system received as a gesture, wherein the object is a device connected to the computer or an application running on the computer;

a 3-D imaging component that captures the gesture in the form of a gesture image, processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system, the imaging component permits user selection of association of gestures with user commands selected from a plurality of user commands executable by the computer, wherein different users employ different gestures for execution of a given command, the association being determined during execution based on a user profile and on a particular application executing on the computer system; and

a wireless control device worn by the user, comprising sensors that measure orientation of the wireless control device, the orientation information utilized to determine selection of the object, the gesture utilized to control the object of the computer system without a cursor.

The cited combination of Kanevsky and Oohara does not teach or suggest the systems defined in these independent claims. As previously discussed above, Kanevsky, describes a user classification/identification/verification in a computer environment and “any scenario where an intended user must be identified and verified prior to performing, or being allowed to perform, a certain act (e.g. access a service or facility),” (Kanevsky, col. 4, lines 61-66).

Furthermore, the Office acknowledges deficiencies with Kanevsky regarding claims 1 and claim 11 as follows:

Kanevsky fails to specifically show: wherein control of the computer system comprises controlling computer programs by manipulating on-screen objects.

(Office Action, pg. 7)

Kanevsky fails to specifically show: a wireless control device worn by the user, comprising sensors that measure orientation of the device, the orientation information utilized to determine selection of the object, the gesture utilized to control the object of the computer system.

(Office Action, pg. 8)

Accordingly, the Office turns to Oohara to rectify the deficiencies of Kanevsky, relative to claims 1 and 11. However, for the reasons discussed below, the added teaching of Oohara fails to address the rejected claims as a whole.

Oohara describes an apparatus for performing image processing of a processed object by displaying the processed object and an operating cursor on an image display device, (Oohara, Abstract). The foregoing is accomplished using a cursor, (Oohara, col. 1, lines 64-67).

Specifically, Oohara provides:

FIG. 3 shows the relationship among the image processing functions, **the operating cursor** shapes and the selecting instruction action forms defined [sic] in order to display the function selecting legend in the embodiment. In the figure, **operating cursors** displaying together regular hexahedral processed objects and selecting instruction action forms of fingers are shown with pairing as examples.

(Oohara, col. 5, lines 23-30) (emphasis added).

Based on this exemplary portion, Oohara's image processing system is entirely reliant on the manipulation of an onscreen cursor by the user's fingers for processing the displayed images. In other words, Oohara's system is strictly cursor-based and fails to teach or suggest, at least, "a user command to control a computer system received from a gesture, wherein control of the computer system comprises controlling computer programs by manipulating onscreen objects without a cursor..." as currently recited in claim 1 and "a wireless control device worn by the user, comprising sensors that measure orientation of the wireless control device, the orientation information utilized to determine selection of the object, the gesture utilized to control the object of the computer system without a cursor," as currently recited in claim 11.

Moreover, the Office's cited portion to Oohara purportedly teaching the features of the rejected claims fail to illustrate the same, (Office Action, pp. 7-8 citing, *inter alia*, Oohara at Fig. 3). As discussed above, the text associated with Fig. 3 is featured as part of Applicant's discussion underscoring Oohara's lack of teaching or suggestion of a system not utilizing a cursor. As such, Applicant respectfully disagrees that Oohara teaches or suggest the features of the subject claims, as currently recited, and therefore respectfully submits that the present rejection be reconsidered and withdrawn.



**Claims 5, 10, 12-13, 16, 18, 39-51 and 53** depend from either independent claim 1 or 11, and therefore are also patentable over the proposed combination of references by virtue of, at least, their respective dependencies. Accordingly, Applicant also respectfully requests individual consideration of each dependent claim.

**Claims 27-28**

**Claims 27-28** depend from independent claim 19, and therefore include the feature, “identifying a user based in part on a radio frequency signal assigned to the user...”

As previously provided above, Kanevsky fails to describe the foregoing feature recited in claim 19 and also included in claims 27-28. Applicant respectfully submits that Kanevsky also does not teach or suggest the same.

It is further submitted that Oohara fails to compensate for the deficiencies of Kanevsky since Oohara also fails to teach or suggest identifying users based in part on a radio frequency signal assigned to the user. Furthermore, the Office does not advance any argument that Oohara teaches or suggest the same.

Accordingly, Applicant respectfully submits that Kanevsky and Oohara, alone or in combination, do not render claims 27-28 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Claim 34

**Claim 34** depends from independent claim 33, and therefore includes the feature, “invoking the user profile according to a unique radio frequency signal received from the user ...”

As previously provided above, Kanevsky fails to describe the foregoing feature recited in claim 33, and also included in claim 34. Applicant respectfully submits that Kanevsky also does not teach or suggest the same.

It is further submitted that Oohara fails to compensate for the deficiencies of Kanevsky since Oohara also fails to teach or suggest unique radio frequency signals from the user. Furthermore, the Office does not advance any argument that Oohara teaches or suggest the same.

Accordingly, Applicant respectfully submits that Kanevsky and Oohara, alone or in combination, do not render claim 34 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Claims 35-38

**Claims 35-38** stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kanevsky in view of Hildreth. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

Independent **claim 36** is reproduced as follows:

Claim 36

A system for controlling a computer during a medical procedure using one or more hand gestures of a medical person, comprising:

means for capturing a gesture presented by a medical person, in the form of a 3-D image;

means for processing the 3-D image of the gesture to allow recognition thereof;

means for returning a computer command associated with the recognized gesture, wherein different commands are returned associated with different users for the received gesture and wherein the different commands are based on a particular application executing on the computer system, the different commands are executable by the computer system; and

means for executing the computer command to facilitate manipulation of medical information presented on a display to the medical person.

The cited combination of Kanevsky and Hildreth does not teach or suggest the system defined in these independent claims. As previously discussed above, Kanevsky, describes a user classification/identification/verification in a computer environment and “any scenario where an intended user must be identified and verified prior to performing, or being allowed to perform, a certain act (e.g. access a service or facility),” (Kanevsky, col. 4, lines 61-66). However, Applicant respectfully submits that Kanevsky fails to teach or suggest, at least, “means for executing the computer command to facilitate manipulation of medical information presented on a display to the medical person,” as recited in claim 36.

The Office’s cited portion to Kanevsky purportedly teaching the foregoing fails to teach as much, (Office Action, pg. 14, citing Kanevsky at col. 5, lines 10-15). This portion of Kanevsky merely provides:

Also, the invention allows for the processing of multiple commands issued simultaneously from multiple users, the processing of the same command from multiple users where the command has a different meaning to each of the users, and the customization of a natural computer and/or service to the specific preferences of each user.

(Kanevsky, col. 5, lines 10-15).

Applicant respectfully submits that this excerpt from Kanevsky, much less any other portion of Kanevsky, does not teach or suggest the manipulation of medical information aspect of claim 36.

It is further submitted that Hildreth does not compensate for the deficiency of Kanevsky, relative to claim 36. Rather, Hildreth describes a technique of using stereo vision to interface with a computer, (Hildreth, Abstract). Moreover, the Office does not advance any argument that Hildreth teaches or suggest the manipulation of medical information, as featured in claim 36.

Accordingly, Applicant respectfully submits that Kanevsky and Hildreth, alone or in combination, do not render claim 36 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Furthermore, **claims 37-38** depend from independent claim 36, and therefore are also patentable over the proposed combination of references by virtue of, at least, their dependencies. Accordingly, Applicant also respectfully requests individual consideration of each dependent claim.

#### Claim 35

As provided previously, **claim 35** stands rejected under 35 U.S.C. §103(a) as being unpatentable over Kanevsky in view of Hildreth. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

Claim 35 depends from independent claim 33, and therefore includes the feature, “invoking the user profile according to a unique radio frequency signal received from the user ...”

As previously provided above, Kanevsky fails to describe the foregoing feature recited in claim 33 and also included in claim 35. Applicant respectfully submits that Kanevsky also does not teach or suggest the same.

It is further submitted that Hildreth fails to compensate for the deficiencies of Kanevsky since Hildreth also fails to teach or suggest unique radio frequency signals from the user. Furthermore, the Office does not advance any argument that Hildreth teaches or suggest the same.

Accordingly, Applicant respectfully submits that Kanevsky and Hildreth, alone or in combination, do not render claim 35 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

#### Claim 7

**Claim 7** stands rejected under 35 U.S.C. §103(a) as being unpatentable over Kanevsky in view of Oohara, further in view of Kazama. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

Claim 7 depends from independent claim 1, and therefore includes the feature, “a user command to control a computer system received from a gesture, wherein control of the computer system comprises controlling computer programs by manipulating onscreen objects without a cursor...”

As previously provided above, the combination of Kanevsky and Oohara fails to describe the foregoing feature recited in claim 1, and also included in claim 7. Applicant respectfully submits that Kazama fails to rectify the deficiencies with respect to the combination of Kanevsky and Oohara.

Rather, Kazama merely describes an input unit for controlling a device and determines whether a user is actively operating the device (Kazama, Abstract). Furthermore, the Office does not advance any argument that Kazama teaches or suggests manipulating onscreen objects without a cursor, as featured in claim 1, and included in claim 7.

Accordingly, Applicant respectfully submits that Kanevsky, Oohara and Kazama, alone or in combination, do not render claim 7 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

#### Claim 8

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Kanevsky in view of Oohara, further in view of Dempksi. Based on the following, Applicant respectfully traverses the rejection, and further requests that the rejection be reconsidered and withdrawn.

Claim 8 depends from independent claim 1, and therefore includes the feature, “a user command to control a computer system received from a gesture, wherein control of the

computer system comprises controlling computer programs by manipulating onscreen objects without a cursor...”

As previously provided above, the combination of Kanevsky and Oohara fails to describe the foregoing feature recited in claim 1, and also included in claim 8. Applicant respectfully submits that Dempski fails to rectify the deficiencies with respect to the combination of Kanevsky and Oohara.

Rather, Dempski merely describes a technique for manipulating virtual objects displayed on a video conference broadcast by generating a computerized three dimensional image of an object to be superimposed on a first video broadcast signal from a local video camera for display on a remote video monitor, and superimposing the same object on a second video broadcast signal, (Dempski, Abstract). Furthermore, the Office does not advance any argument that Dempski teaches or suggest manipulating onscreen objects without a cursor, as featured in claim 1, and included in claim 8.

Accordingly, Applicant respectfully submits that Kanevsky, Oohara and Dempski, alone or in combination, do not render claim 8 obvious, and Applicant respectfully requests that the rejection be reconsidered and withdrawn.

### **Conclusion**

For at least the foregoing reasons, it is respectfully submitted that claims 1, 5, 7, 8, 10-13, 16, 18, 19, 24, 25, 27, 28 and 30-53 are in condition for allowance and a Notice to that effect is earnestly solicited. However, if there are any remaining matters that may be handled by a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

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